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10/814,933	03/30/2004	Nicholas I. Buchan		7929

7590
G. Marlin Knight
Hoyt & Knight
PO Box 1320
Pioneer, CA 95666

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EXAMINER

JOHNSON, CONNIE P

ART UNIT

PAPER NUMBER

1795

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/814,933

Applicant(s)

BUCHAN ET AL.

Examiner

CONNIE P. JOHNSON

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Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 11, 12 and 14-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 11, 12 and 14-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Response to Amendment

1. The remarks and amendment filed 4/15/2008 have been entered and fully considered.
2. Claims 1-3, 11-12 and 14-23 are presented.
3. Claims 1, 15 and 16 are amended.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lille, U.S. Patent No. 6,725,526 B2 in view of Davis et al., U.S. Patent No. 6,821,626 B1.

Lille teaches a suspension assembly with a base, formed from silicon wafer (stiffener layer), a sacrificial layer (cushion layer), which is less stiff than the silicon wafer and subsequently formed over the silicon wafer. Further, in column 5, lines 28-31, Lille teaches an elastomeric polydimethylsiloxane (PDMS) layer that is transferable and covers the sacrificial layer (cushion layer). The assembly may also include a photoresist layer over the PDMS layer. In figure (4), Lille shows the transfer film (14) is removed from the master and a resin-polymer layer (16) is applied to the transfer film. The resin-

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polymer layer is representative of the photoresist layer. Lille does not teach that the sacrificial layer (cushion layer) comprises silicone rubber.

However, Davis teaches a fuser member comprising a core, a base cushion layer that has a thickness of 0.6-5.0mm (col. 7, lines 56-58) and an outer layer. The cushion layer comprises silicone rubber and is capable of providing flexible support of the outer layer (col. 7, line 65 and col. 8, lines 55-57). Davis teaches that the fuser member may comprise additional layers (col. 8, lines 35-42). It would have been obvious to one of ordinary skill in the art to use the cushion layer of Davis in the assembly of Lille because silicone rubber is used in the cushion layer of Davis to increase resilience (elasticity) of the fuser member.

6. Claims 11 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lille (above) in view of Davis (above) and further in view of Drake et al., U.S. Patent No. 6,200,882 B1.

Lille teaches a suspension assembly with a base, formed from silicon wafer (stiffener layer), a sacrificial layer (cushion layer), a layer comprising polydimethylsiloxane (PDMS) formed on the sacrificial layer and a photoresist as relied upon above. Lille nor Davis teach the thickness of the stiffener and transfer layers.

However, Drake teaches a mirror assembly comprising a substrate (stiffener layer) with a thickness of 75 to 600 microns (0.75 to 6.0mm) (col. 9, line 22). The substrate has an upper planar surface (cushion layer) with the same thickness as the substrate of 75 to 600 microns (.75 to 6.0 mm) (col. 9, line 24). The thickness of 75 to 600 microns meets the limitations of the thickness of 0.1 to 1.0mm for the stiffener layer

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as in instant claim 14. The reference also teaches that the mirror assembly comprises a PSG layer (transfer layer) on top of the upper layers with a thickness of 8 to 13 microns (col. 11, line 19). Drake also teaches a photoresist layer over the layers (col. 19, line 23-25). It would have been obvious to one of ordinary skill in the art to use the layers of Lille with the thickness taught by Drake because Drake teaches the upper planar layer and substrate as being thicker to support the thinner, polysilicon layer.

7. Claims 17-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otsuka et al., 2003/0197978 A1 in view of Bietsch et al., 2005/0191582.

Otsuka teaches a magnetic head slider comprising a plurality of slide rails (page 12, [0205]). The slide rails are representative of transfer pads as in figure 7 and 8. Figures 17A-17F shows layers of the magnetic head slider. The magnetic head slider has alternating layers of a carbon film (polymer layer) and an intermediate layer (cushion layer). The top carbon film layer is representative of the covertape. The carbon film also comprises a layer of photoresist on the carbon film (see figure 17B). Otsuka does not teach that the alternating layers comprise polydimethylsiloxane or silicone rubber.

However, Bietsch teaches a mechanical releasable slider comprising PDMS based layers ([0023]). The PDMS or silicone rubber is advantageous in resist compositions because of its rubber-elastic properties. Therefore, it would have been obvious to one of ordinary skill in the art to use the PDMS and silicone rubber in the

alternating layers of Otsuka because the rubber-elastic properties are advantageous in resist compositions as taught by Bietsch.

Response to Arguments

8. Applicant's arguments filed 4/15/2008 have been fully considered but they are not persuasive.
9. Applicant argues that in the coversheet of the office action dated 1/25/2008, claims 17-25 are indicated as allowable and that claims 15 and 16 are objected to, however the aforementioned claims are included in rejections in the office action.
10. The coversheet of the office action is in error. Claims 15-16 and 17-23 are rejected as shown in the office action.
11. Applicant argues that the examiner has ignored the preamble of the claim which recites, "a structure for applying photoresist to a surface of a workpiece."
12. Lille teaches that the embodiments of the reference include a transfer film with a patterned photoresist formed over the transfer film. The transfer layer comprises polydimethylsiloxane and the photoresist is formed on top of the transfer layer. Applicant claims the same invention. Therefore, the photoresist is applied to the surface of a workpiece.
13. Applicant argues that the amendment of claim 1 to include the recitation, "the transferable coating of photoresist being transferable to the workpiece through physical contact," further clarifies the invention and that none of the references teach a structure for applying photoresist to a surface of a workpiece.

14. The amendment to claim 1 wherein, "the transferable coating of photoresist being transferable to the workpiece through physical contact," has no antecedent basis.

Further, Lille teaches a transferable photoresist as shown in column 2, lines 38-46 of Lille.

15. Applicant argues that examiner has erroneously equated applicants' claimed transfer layer with Lille's PDMS mold layer. Further, that the resin-polymer layer being equated with the photoresist is not supportable.

16. Lille teaches that one of the embodiments of the prior art is applying a photoresist to a transfer film. Polymer resins are photoresist material. Therefore, the resin-polymer layer is representative of a photoresist layer. In addition, Lille specifically teaches that the transfer layer is made of PDMS material with the resin-polymer layer formed on the PDMS layer (col. 4, lines 53-67). Therefore, the burden of proof is on applicant to show a difference between the claimed invention and the Lille reference.

17. Applicant argues that Lille does not teach a transferable coating of photoresist that is transferable to a workpiece by physical contact and that Lille's device cannot be used in any way that applicants' device can be used.

18. Applicant is directed to column 4, lines 58-67 wherein Lille teaches a layer comprising polydimethylsiloxane is cured to crosslink the polymer and is removed from the wafer substrate by peeling the PDMS layer from the substrate. Further, in column 5, lines 28-31, Lille teaches that the PDMS layer is transferred to cover the sacrificial layer. Since Lille teaches a layer comprising the PDMS material, the PDMS layer of Lille is capable of performing as a transfer layer. In addition, figure (4) shows the transfer film

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(14) is removed from the master and a resin-polymer layer (16) is applied to the transfer film. The resin-polymer layer is representative of the photoresist layer. Therefore, Lille definitely teaches a transferable coating of photoresist that is transferable to a workpiece by physical contact.

19. Applicant argues that Davis is clearly non-analogous art in relation to Lille.

Further, that the cushion layer in Drake is not used as part of a structure for transferring a photoresist to a workpiece and is therefore, inapplicable.

20. Davis is used to show transferrable material with a cushion layer. Davis teaches a fuser member with a transferable material with a cushion layer (col. 7, lines 56-58).

The cushion layer is in a composition claim. Although Davis may not teach a photoresist with a transfer film, Davis does teach a layered structure with a cushion layer as the flexible support. Davis also teaches that the cushion layer is made of silicon rubber to increase elasticity of the fuser member. Lille also teaches a multilayered structure with a silicon support. Therefore, Davis is analogous art.

21. Applicant argues that Drake does not teach a structure for transferring a photoresist to a workpiece. Further, that the layer thickness of Drake is for non-analogous elements.

22. Drake teaches magnetic-optical storage system with a substrate has a thickness of 75 to 600 microns (0.75 to 6.0mm) (col. 9, line 22). The substrate has an upper planar surface (cushion layer) with the same thickness as the substrate of 75 to 600 microns (.75 to 6.0 mm) (col. 9, line 24). The thickness of 75 to 600 microns meets the limitations of the thickness of 0.1 to 1.0mm for the stiffener layer as in instant claim 14.

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The reference also teaches that the mirror assembly comprises a PSG layer (transfer layer) on top of the upper layers with a thickness of 8 to 13 microns (col. 11, line 19).

Therefore, the layer thickness of Drake is definitely analogous to the elements in claims 11, 12 and 14.

23. Applicant argues that the claim 17 is for "a structure for applying photoresist to a surface of a workpiece." Further, that the coversheet as claimed is not the same as a carbon film on a silicon wafer.

24. "A structure for applying photoresist to a surface of a workpiece" is intended use of the composition. The combination of Otsuka and Bietsch teaches a transfer film with a photoresist applied thereon. The covertape can be a carbon film because applicant has not claimed any particular covertape in the invention. Further, applicant has not shown that the carbon film of Otsuka cannot be rolled up. Otsuka teaches a magnetic head slider comprising a plurality of slide rails (page 12, [0205]). The slide rails are representative of transfer pads as in figure 7 and 8. Figures 17A-17F shows layers of the magnetic head slider. The magnetic head slider has alternating layers of a carbon film (polymer layer) and an intermediate layer (cushion layer). The top carbon film layer is representative of the covertape. The carbon film also comprises a layer of photoresist on the carbon film (see figure 17B).

Conclusion

25. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CONNIE P. JOHNSON whose telephone number is (571)272-7758. The examiner can normally be reached on 7:30am-4:00pm Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Connie P. Johnson
Examiner
Art Unit 1795

/Cynthia H Kelly/

Supervisory Patent Examiner, Art Unit 1795